



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/784,111

02/20/2004

Masami Kameda

16869S-106900US

6926

20350 7590 11/21/2007  
TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

BIAGINI, CHRISTOPHER D

ART UNIT

PAPER NUMBER

2142

MAIL DATE

DELIVERY MODE

11/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

mm

<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,111	KAMEDA, MASAMI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Christopher D. Biagini	2142	

All participants (applicant, applicant's representative, PTO personnel):

(1) Christopher D. Biagini. (3)\_\_\_\_\_

(2) John J. Farrell. (4)\_\_\_\_\_

Date of Interview: 19 November 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.  
If Yes, brief description: \_\_\_\_\_

Claim(s) discussed: 1,3-8,10-14 and 16.

Identification of prior art discussed: N/A.

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Interview generally proceeded according to the attached Interview Request Form. Mr. Farrell elaborated upon his position regarding the rejections under 35 USC 112 and explained where he believed the limitations were supported in the specification. I indicated that there are still some issues concerning how notifications occur over the SAN.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.



ANDREW CALDWELL  
SUPERVISORY PATENT EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

**TOWNSEND**  
and  
**TOWNSEND**  
and  
**CREW**  
LLP

San Francisco, California  
Tel 415 576-0200

Palo Alto, California  
Tel 650 326-2400

Walnut Creek, California  
Tel 925 472-5000

San Diego, California  
Tel 858 350-6100

Denver, Colorado  
Tel 303 571-4000

Washington, DC  
Tel 202 481-9900

Tokyo, Japan  
Tel +61 3 3507-5609

Seattle

1420 5th Avenue  
Suite 4400  
Seattle  
Washington 98101  
Tel 206 467-9800  
Fax 206 623-6793

### FACSIMILE COVER SHEET

Date: <b>November 15, 2007</b>	Client & Matter Number: <b>16869S-106900US</b>	No. Pages (including this one): <b>7</b>
To: <b>Christopher D. Biagini USPTO</b>	At Fax Number: <b>571-273-9743</b>	Confirmation Phone Number: <b>571-272-9743</b>
From: John J. Farrell		<b>(4046)</b>

**Re: U.S. Application No. 10/748,111**  
**Title: DATA TRANSFER METHOD AND SYSTEM**  
**Filed: February 20, 2004**

Please see the attached Interview Request Form, comments regarding the claim rejections and proposed amendments for the above-identified application.

Thank you.

Sincerely,

John J. Farrell

Original Will:	<input type="checkbox"/> BE SENT BY MAIL	<input type="checkbox"/> BE SENT BY FEDEX/OVERNIGHT COURIER	<input type="checkbox"/> BE SENT BY MESSENGER	<input checked="" type="checkbox"/> NOT BE SENT
----------------	--	---	---	---

Faxed:

Return to: Jocelyn A. Eskow - (3080)

If you have problems with reception please call Fax Services at extension **(206) 467-9600**

**Important**

This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential, and/or exempt from disclosure by applicable law or court order. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address via the United States Postal Service. Thank you.

61211053 v1

PTOL-413A (10-07)

### Applicant Initiated Interview Request Form

Application No.: 10/784,111 First Named Applicant: KAMEDA, Masami  
 Examiner: Christopher D. Biagini Art Unit: 2142 Status of Application: Final

**Tentative Participants:**

(1) John Farrell (2) \_\_\_\_\_  
 (3) \_\_\_\_\_ (4) \_\_\_\_\_

Proposed Date of Interview: November 19, 2007 Proposed Time: 1:00 PM Eastern Time

**Type of Interview Requested:**

(1) ☒ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☒ NO

If yes, provide brief description: \_\_\_\_\_

### Issues To Be Discussed

Issues (Rej., Obj., etc.)	Claims Fig.#s	Prior Art	Discussed	Agreed	Not Agreed
(1) Objection	Claim 1 and Fig. 2	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Rejection	1, 3-8, 10- 14, 16	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) Rejection	1, 6, 10, 16	Soltis and Bessire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Continuation Sheet Attached

**Brief Description of Arguments to be Presented:**

See attached.

An interview was conducted on the above-identified application on \_\_\_\_\_.  
**NOTE:** This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).  
 This application will not be delayed from issue because applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

Applicant/Applicant's Representative Signature

John J. Farrell

Typed/Printed Name of Applicant or Representative

57,291

Registration Number, if applicable

Examiner/SPE Signature

### **A. Objection to the Specification and Claim Rejections under 35USC 112**

Support for all of the claimed elements can be found in Fig. 1-3 and in the corresponding description. Referring to proposed claim 1 (attached), reference numerals are shown to indicate these features in the drawings.

The Office Action states that "via the SAN" in "in response to information that identifies a particular block from said first controller via the SAN" is not supported. Referring to FIG. 2, reference number 206 shows the SAN which is described in the specification on page 13.

Referring to line 19 on page 13 of the specification, the word "one" may be logically contradictory because a failure in the SAN 206 may lead to system failure. The word should be "a path" as stated in the corresponding Japanese priority document. If necessary, the specification can be amended to further describe these features. Furthermore, a failure due to WAN-B in Fig. 2 is described on page 14, lines 16-17.

### **B. Claim Rejections under 35 USC 103**

The Office Action states that Soltis does not show identifying a particular block via the SAN and the SAN couples the first and second controller to establish the paths in the claimed invention. However, the Office Action states that Bessire shows that a first controller and a second controller may communicate over a network (See paragraph [0030]), and Soltis shows a finite number of networks (LAN 104 and SAN 128).

The cited paragraph [0030] in Bessire indicates IPS is supported by most operating systems to enable communication between processes, i.e., executing programs, either within the same computer or on different computers connected through a network. One of controllers 30 and 32 serves as a backup for the other (See the Abstract, last four lines).

However, Bessire does not teach Applicants' configuration that a storage-side controller (111) communicates with a server-side controller (109) via a SAN (106) (See page 10, lines 15-18) with the SAN also serving as a path for transferring a data block to a backup storage unit (130). The use of a SAN is advantageous to implement a data transfer method that is faster and more reliable than a general network (See page 2, lines 1-9).

Soltis does never teach that a server (Applicants' 107; 207; 307) and a storage system (Applicants' 110; 210; 310) are connected to a SAN (Applicants' 106; 206; 306). Soltis' showing of a finite number of networks (LAN 104 and SAN 128) is a general example of backup or duplication networks. Therefore, the combination of Soltis and Bessire is not the same as the claimed invention because Soltis does not teach a SAN-based system in communication between the storage-side controller and the server-side controller.

61211040 v1

**PROPOSED CLAIM AMENDMENT**

1. (Currently amended) A computer system for transferring data from a first storage unit (110) to a second storage unit (130) via a network (105), said computer system comprising:

a first controller (111) provided in the first storage unit, which transfers data stored in said first storage unit, to said second storage unit using a block transfer protocol;

a storage area network (SAN) (106) through which the transfer of data using the block transfer protocol is performed to said second storage unit;

a table (108) which associates a file composed of a plurality of blocks of data with blocks of data constituting the file; and

a second controller (109) which, in response to information that identifies a particular block to be transferred from said first controller via the SAN, identifies a file corresponding to the particular block using said table and transfers the identified file to said second storage unit via a local area network (LAN) (101) using a file transfer protocol,

wherein ~~said SAN couples~~ the first controller and the second controller are coupled via said SAN to establish a path for the transfer between said first storage unit and said second storage unit using the block transfer protocol and another path for the transfer using the file transfer protocol with the LAN,

wherein said table receives from said first controller information indicating whether the particular block has been transferred to said second storage unit successfully in units of data blocks.

2. (Canceled)

3. (Previously presented) The computer system according to claim 1 wherein, upon detecting a transfer failure when transferring data, which is stored in said first storage unit, using the block transfer protocol, said first controller notifies information to said second controller, said information identifying a particular block concerned with the transfer failure.

4. (Original) The computer system according to claim 3 wherein the identified file includes data of blocks other than the block related to the transfer failure.

5. (Previously presented) The computer system according to claim 4 wherein the data of blocks other than the block related to the transfer failure is data that has been transferred by said first controller via the SAN using the block transfer protocol.

6. (Currently amended) A computer system that transfers data from a first storage unit to a second storage unit via a SAN and a LAN, said computer system comprising:  
a first controller that transfers data stored in said first storage unit, to said second storage unit on a block basis via the SAN; and  
a second controller that transfers data, stored in said first storage unit, to said second storage unit on a file basis via the LAN,  
wherein said second controller manages an association between a file composed of a plurality of first blocks of data and the blocks of data constituting the file based on a management table defining the association and, upon receiving information identifying a particular block of the plurality of first blocks to be transferred from said first controller via the SAN, determines a file including data of the particular block using the management table and transfers the determined file to said second storage unit via the LAN on a file basis, the file being passed from the first storage unit to the second storage unit via the SAN,  
wherein said management table receives from said first controller information indicating whether the particular block has been transferred to said second storage unit successfully in units of data blocks.

7. (Previously presented) The computer system according to claim 6 wherein, when the transfer on a file basis fails, said second controller identifies a plurality of second blocks related to the transfer-failed file and instructs said first controller to transfer data of the plurality of second blocks.

8. (Previously presented) The computer system according to claim 7 wherein said first storage unit comprises a main volume and a sub volume that store the same contents of data and wherein, when a transfer of data stored on said sub volume on a block basis fails, said first controller notifies information identifying a particular block of transfer-failed data

to said second controller and, in response to an instruction to transfer data of a plurality of third blocks related to the transfer-failed file from said second controller, transfers data corresponding to the plurality of third blocks stored on said main volume on a block basis.

9. (Canceled)

10. (Currently amended) A data transfer method for use in a computer system, which has a second controller for transferring data to another computer system via a LAN, said second controller connected via a SAN to a storage system comprising a storage unit and a first controller that manages data stored in said storage unit on a block basis using a block address, said second controller associating information identifying the block addresses with a file identifier for managing a file composed of a plurality of blocks on a file basis, the data transfer method comprising:

at said second controller,

in response to receiving of information identifying the block address from said first controller, identifying a file identifier associated with the information identifying the block address;

notifying information identifying a plurality of block addresses associated with the file identifier to said first controller; [[and]]

in response to receiving data corresponding to the information identifying a plurality of block addresses from said first controller via the SAN, transferring data to said other computer system on a file basis with the file identifier attached to the data; and

receiving from said first controller information indicating whether the data been transferred to said other computer system unit successfully in units of data blocks.

11. (Previously presented) The data transfer method according to claim 10 wherein said second controller transfers a management table, which associates the information identifying block addresses with a file identifier, to said other computer system when data is transferred on a file basis.

12. (Original) The data transfer method according to claim 10 wherein the information identifying a block address is a logical block address.



13. (Previously presented) The data transfer method according to claim 10 wherein, upon detecting a failure during transfer of data to a storage system connected to said other computer system on a block basis, said first controller notifies the information identifying a block address to said second controller via the SAN.

14. (Original) The data transfer method according to claim 10 wherein said computer system notifies information identifying a block address to said first controller to request to transfer data on a block basis.

15. (Canceled)

16. (Currently amended) A computer-readable medium storing a program that causes a file server to transfer data to another file server via a SAN, said file server connected via a fibre channel to a storage system comprising a storage area and a controller that manages data stored in said storage area on a block basis using a block address, said file server associating information identifying the block addresses with a file identifier for managing a file composed of a plurality of blocks on a file basis,

the program, when executed, performing the following actions:

upon receiving information identifying the block address from said controller, causing said file server to identify a file identifier associated with the information identifying the block address and notify information identifying a plurality of block addresses associated with the file identifier to said controller; [[and]]

upon receiving data corresponding to the information identifying a plurality of block addresses from said controller, causing said file server to transfer data to said other file server on a file basis with the file identifier attached to the data via a [[the]] LAN; and

receiving from said controller information indicating whether the data has been transferred to said other file server successfully in units of data blocks.

61210667 v1